



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Dewald

Art Unit: 2872

Serial No.: 09/750,640

Examiner: Robinson, Mark A.

Filed: 12/28/2000

Docket No.: TI-30205

For: ROD INTEGRATORS

#114  
Original  
3/6/03

**APPEAL BRIEF UNDER 37 C.F.R. § 1.192**

24 February 2003

Assistant Commissioner for Patents  
Washington, D.C. 20231

MAILING CERTIFICATE UNDER 37 C.F.R. § 1.8(A)	
I hereby certify that the above correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on the date shown below.	
<i>Charles A. Brill</i>	24 Feb 2003
Charles A. Brill	Date

Dear Sir:

The following Appeal Brief is respectfully submitted, in triplicate, in connection with the above-identified application in response to the Final Rejection mailed 26 June 2002, and the Advisory Action mailed 13 January 2003. Please charge all required fees, including any necessary extension of time fees, to the deposit account of Texas Instruments Incorporated, Deposit Account 20-0668.

**REAL PARTY IN INTEREST**

The real party in interest is Texas Instruments Incorporated, to whom this application is assigned.

**RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to the Applicant's legal representative.

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## **STATUS OF THE CLAIMS**

Claims 1-7, 10-13, and 15-20 are pending in this application. This application was filed on 28 December 2000 with thirty total claims, two of which, Claims 1 and 30, were written in independent form. On 28 September 2001, Claims 1-7, 10-13, and 15-20 were elected in response to a restriction requirement pending allowance of a generic claim. Claims 8, 9, 14, and 21-30 were withdrawn from consideration by the Examiner on 13 December 2001 as being drawn to non-elected subject matter.

## **STATUS OF THE AMENDMENTS**

Claim 1 was amended on 22 March 2002. A response to the final rejection was submitted on 26 August 2002 but not amend any of the claims.

## **SUMMARY OF THE INVENTION**

Specification page 5, lines 4-13, provides a concise explanation of the invention defined in the appealed claims. The invention provides an integrating rod comprised of an elongated body and a mirrored entrance aperture at an entrance face of the elongated body. The mirrored entrance aperture reflects light traveling through the elongated body to the entrance face when such light strikes the mirrored entrance aperture outside the transmissive entrance aperture portion of the mirrored entrance aperture.

Figures 2 and 6 illustrate embodiments of the claimed integrating rod. The specification, from line 21 of page 10 through line 7 of page 11, describes the integrating rod of Figure 2. Lines 1-19 of page 13 of the specification describe the integrating rod of Figure 6, which includes an optional mirrored aperture on the exit face. Specifically, Figure 6 traces the path of light 612 traveling through the elongated body of the integrating rod and striking the mirrored input face 302 of the integrating rod.

## **ISSUES**

1. Whether Claim 1 is anticipated by Kaplan et al., U.S. Patent 5,335,158 under 35 U.S.C. § 102(b).
2. Whether Claim 7 is unpatentable over Kaplan et al., U.S. Patent 5,335,158 under 35 U.S.C. § 103(a).
3. Whether Claim 16 is anticipated by Kaplan et al., U.S. Patent 5,335,158 under 35 U.S.C. § 102(b).
4. Whether Claim 19 is anticipated by Kaplan et al., U.S. Patent 5,335,158 under 35 U.S.C. § 102(b).

## **GROUPING OF THE CLAIMS**

Claims 1, 7, 16, and 19 are independently patentable and stand or fall individually for the reasons more clearly set forth hereinbelow. Claims 2-6, 10-13, 15, 17, 18, and 20 stand or fall together with Claim 1, from which Claims 2-6, 10-13, 15, 17, 18, and 20 depend.

## **ARGUMENTS**

### **Issue 1:**

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,335,158 to Kaplan et al. ("Kaplan"). The applicant respectfully disagrees and submits the Examiner has failed to present a prima facie case of anticipation. Section 2131 of the Manual of Patent Examiner's Procedure provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference."

*Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d

1051, 1053, (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim . . . . *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Claim 1 recites, “a mirrored entrance aperture.” The Examiner stated, “Kaplan shows in fig. 1 an integrating rod . . . with an entrance face which has a circular transmissive aperture (34) centered within a mirrored portion (24) . . . .” The applicant respectfully submits Kaplan does not show, teach, or suggest “a mirrored entrance aperture” as recited by Claim 1. The Kaplan states, “The cavity 12 is formed by a generally cylindrical wall surface 24 and two generally planar wall surfaces 26 and 28 in wall portions 27 and 29, respectively.” Kaplan col. 3, lines 49-52. Kaplan further states, “the light-contacting surfaces within the cavity 12 are painted with Spectrafect™ paint which is a highly reflective diffuse, white paint. . . .” Kaplan col. 4, line 68 through col. 5, line 2. Kaplan further states, “All internal surfaces of cavity 12, including surfaces of baffle 36, are highly reflective diffuse surfaces.”

The fifth edition of the McGraw-Hill Dictionary of Scientific and Technical Terms defines mirror as, “A surface which specularly reflects a large fraction of incident light.” Webster’s II New Riverside Dictionary defines mirror as, “1. A surface, as of glass, that reflects undiffused light to form an image of an object.” Kaplan’s diffuse surface 24 cannot be considered “a mirrored entrance aperture” as recited by Claim 1.

The Examiner, in the Advisory Action dated 17 December 2002 states, “according to the definitions of “mirror” provided by applicant, the surface of Kaplan in

question satisfies the broad definition of “mirror” as it is a highly reflective surface.” The applicant respectfully submits that the definitions, as reproduced above, clearly do not include the diffuse surfaces of Kaplan, which by definition fail to specularly reflect and fail to reflect undiffused light as required by the definitions.

Not only does Kaplan fail to show or teach the recited elements of Claim 1, Kaplan further cannot be considered to suggest the recited elements of Claim 1 since Kaplan teaches away from the “mirror entrance aperture” recited by Claim 1 as evidenced by the passages of Kaplan cited above which state Kaplan’s reflective surface is diffuse.

Claim 1 further recites, “an entrance face on a first end of said elongated body; and a mirrored entrance aperture at said entrance face.”

The Examiner stated, “Kaplan shows in fig. 1 an integrating rod including an elongated body (12) with an entrance face which has a circular transmissive aperture (34) centered within a mirrored portion (24) . . . .” The entrance face with a circular transmissive aperture (34) of Kaplan clearly is not “on a first end of said elongated body” are recited by Claim 1. The Examiner stated, in the final rejection mailed 26 June 2002, “A ‘body’ may be defined as a main or central part of something or merely an aggregate of matter. Thus, item 12 of Kaplan clearly satisfies the broad recitation of an ‘elongated body’ as claimed. Thus, the entrance aperture in Kaplan is shown to be located on a first end of this body.”

The applicant respectfully submits that item 12 of Kaplan should not be considered an elongated body or an aggregate of matter, but rather is an “elongated

integrating cavity 12 formed” in “a solid body 14” as described in column 3, lines 47-48, of Kaplan.

Webster’s II New Riverside Dictionary defines end as, “1. A part lying at a boundary: extremity. 2. The point at which something ceases: conclusion. 3. A result: outcome. 4. An ultimate extent: limit.” It is clear from Figures 1, 2, and 3a of Kaplan that the aperture (34) of Kaplan cannot be considered to be at an end of the body of Kaplan, but rather an interior cavity of the body of Kaplan.

In view of the above, the Examiner’s rejection of Claim 1 under 35 U.S.C. § 102(b) as being anticipated by Kaplan is clearly defective, is unsupported by the prior art, fails to establish a prima facie case of anticipation, and should be withdrawn.

#### Issue 2.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaplan. The applicant respectfully disagrees and submits the Examiner has failed to present a prima facie case of obviousness.

“A person shall be entitled to a patent unless,” creates an initial presumption of patentability in favor of the applicant. 35 U.S.C. § 102. “We think the precise language of 35 U.S.C. § 102 that, ‘a person shall be entitled to a patent unless,’ concerning novelty and unobviousness, clearly places a burden of proof on the Patent Office which requires it to produce the factual basis for its rejection of an application under sections 102 and 103, see *Graham and Adams*.” *In re Warner*, 379 F.2d 1011, 1016 (C.C.P.A. 1967) (referencing *Graham v. John Deere Co.*, 383 U.S. 1 (1966) and *United States v. Adams*, 383 U.S. 39 (1966)). “As adapted to *ex parte* procedure, *Graham* is interpreted as continuing to place the ‘burden of proof on the Patent Office which requires it to produce

the factual basis for its rejection of an application under sections 102 and 103'." *In re Piasecki*, 745 F.2d 1468 (Fed. Cir. 1984) (citing *In re Warner*, 379 F.2d at 1016).

"The prima facie case is a procedural tool which, as used in patent examination (as by courts in general), means not only that the evidence of the prior art would reasonably allow the conclusion the examiner seeks, but also that the prior art compels such a conclusion if the applicant produces no evidence or argument to rebut it." *In re Spada*, 911 F.2d 705, 708 n.3 (Fed. Cir. 1990).

Claim 7 is dependent upon independent Claim 1 and should be deemed allowable for that reason and on its own merits. In addition to the limitations recited by Claim 1, dependent Claim 7 recites the further limitation, "said mirrored entrance aperture is a metal layer deposited on said entrance face." In the initial rejection mailed 13 December 2001, the Examiner stated, "With respect to claim 7, although not taught by Kaplan, use of a known metal reflecting layer in Kaplan's device would have been obvious to the ordinarily skilled artisan at the time of invention in order to increase the reflectivity of the body's interior."

"To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985).

The applicant respectfully submits that Claim 7 recites, "said mirrored entrance aperture is a metal layer deposited on said entrance face." The Examiner has not

provided any suggestion or teaching in the prior art of record that would lead one of ordinary skill in the art to deposit a metal layer on an entrance face in order to increase the reflectivity of the body's interior. Not only does Claim 7 specify that the metal layer is deposited on an entrance face rather than the surface of an interior cavity as suggested by the Examiner, there is no suggestion in the prior art, and the Examiner has not provided any teaching that a metal layer would be any more reflective than the "highly reflective diffuse" white Spectrafect™ paint or other highly reflective diffuse surfaces taught by Kaplan. Thus, there is no suggestion in the prior art that would lead one of ordinary skill in the prior art from the diffuse surface of Kaplan to the "mirrored entrance aperture is a metal layer deposited on said entrance face" of Claim 7.

In view of the above, the Examiner's rejection of Claim 7 under 35 U.S.C. § 103(a) as being unpatentable over Kaplan is clearly defective, is unsupported by the prior art, fails to establish a prima facie case of obviousness, and should be withdrawn.

Issue 3.

Claim 16 was rejected under 35 U.S.C. § 102(b) as being anticipated by Kaplan. The applicant respectfully disagrees and submits the Examiner has failed to present a prima facie case of anticipation.

Claim 16 recites, "said elongated body is a solid transparent body." The Examiner has stated, "item 12 of Kaplan clearly satisfies the broad recitation of an 'elongated body' as claimed." The applicant respectfully submits that item 12 of Kaplan is unambiguously stated to be a "cavity" which cannot be held to anticipate a "solid transparent body" as recited by Claim 16.



In view of the above, the Examiner's rejection of Claim 16 under 35 U.S.C. § 102(b) as being anticipated by Kaplan is clearly defective, is unsupported by the prior art, fails to establish a prima facie case of anticipation, and should be withdrawn.

Issue 4.

Claim 19 was rejected under 35 U.S.C. § 102(b) as being anticipated by Kaplan. The applicant respectfully disagrees and submits the Examiner has failed to present a prima facie case of anticipation.

Claim 19 recites, "said light traveling through said elongated body is reflected by total internal reflection at an interface between said elongated body and a media surrounding said elongated body." The Examiner has not presented any teaching in Kaplan or any other sources that would suggest the diffuse, typically painted, interior cavity surface of Kaplan reflects light by total internal reflection as recited by Claim 19, or how such a curved surface could reflect light in such a manner.

In view of the above, the Examiner's rejection of Claim 19 under 35 U.S.C. § 102(b) as being anticipated by Kaplan is clearly defective, is unsupported by the prior art, fails to establish a prima facie case of anticipation, and should be withdrawn.

**CONCLUSION**

For the foregoing reasons, Appellants respectfully submit that the Examiner's final rejection of Claims 1, 2, 5, 6, and 15-20 under 35 U.S.C. § 102(b) as being anticipated by Kaplan, and Claims 3, 4, 7, and 10-13 as being unpatentable over Kaplan is improper, and it is respectfully requested that the Board of Patent Appeals and Interferences so find and reverse the Examiner's rejection.

Please charge any fees necessary in connection with the filing of this paper,  
including any necessary extension of time fees, to Deposit Account No. 20-0668 of Texas  
Instruments Incorporated.

Respectfully submitted,



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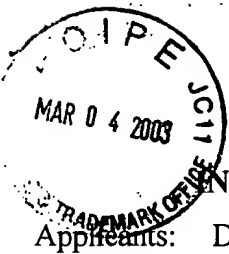
## APPENDIX

1. An integrating rod comprised of:
  - an elongated body, said elongated body operable to reflect light traveling through said elongated body;
  - an entrance face on a first end of said elongated body; and
  - a mirrored entrance aperture at said entrance face, said mirrored entrance aperture having a transmissive entrance aperture portion and a mirrored portion, said mirrored entrance aperture allowing light to pass through the aperture thereof to enter the elongated body of said integrating rod, said mirrored entrance aperture operable to reflect light traveling through said elongated body to said entrance face that strikes said mirrored entrance aperture outside said transmissive entrance aperture portion.
2. The integrating rod of Claim 1, wherein said entrance aperture is circular.
3. The integrating rod of Claim 1, wherein said entrance aperture is elliptical.
4. The integrating rod of Claim 1, wherein said entrance aperture is rectangular.
5. The integrating rod of Claim 1, wherein said entrance aperture is centered on said entrance face and surrounded by said mirrored portion of said mirrored entrance aperture.
6. The integrating rod of Claim 1, wherein said mirrored entrance aperture is on said entrance face.
7. The integrating rod of Claim 1, wherein said mirrored entrance aperture is a metal layer deposited on said entrance face.
10. The integrating rod of Claim 1, said elongated body having a rectangular cross

section.

11. The integrating rod of Claim 1, said elongated body having a triangular cross section.
12. The integrating rod of Claim 1, said elongated body having a hexagonal cross section.
13. The integrating rod of Claim 1, said elongated body having a square cross section.
15. The integrating rod of Claim 1, wherein said elongated body is hollow.
16. The integrating rod of Claim 1, wherein said elongated body is a solid transparent body.
17. The integrating rod of Claim 1, wherein said elongated body is glass.
18. The integrating rod of Claim 1, wherein said light traveling through said elongated body is reflected by mirrored surfaces along said elongated body.
19. The integrating rod of Claim 1, wherein said light traveling through said elongated body is reflected by total internal reflection at an interface between said elongated body and a media surrounding said elongated body.
20. The integrating rod of Claim 19, wherein said media surrounding said elongated body is air.

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APPEAL BRIEF TRANSMITTAL

24 February 2003

Assistant Commissioner for Patents  
Washington, D. C. 20231

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the date below.

Sir:

*Charles A. Brill* 24 Feb 2003  
Charles A. Brill Date

Transmitted herewith in triplicate is an Appeal Brief in the above-identified application.

Please charge the \$320.00 fee for filing the Brief to the deposit account of Texas  
Instruments Incorporated, Deposit Account No. 20-0668.

Charge any additional fees, or credit overpayment to Deposit Account No. 20-0668. Three  
copies of this sheet are enclosed.

Respectfully submitted,

*Charles A. Brill*

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